

SPEAKER GRILL

FIELD OF THE INVENTION

The present invention relates to speakers and more particularly to grills connected to speaker boxes.

BACKGROUND OF THE INVENTION

Automobiles are the source of pride for many people. Such persons desire to decorate their vehicles and draw attention to the various features. Several clever inventions have been patented concerning decorative hub caps and speaker grills.

For instance, United States patent 6,443,529 discloses a non-rotatable wheel cover disc. United States Patent 6,536,848 discloses another non-rotating display wheel cover. These hubcaps are designed to remain stationary when the remainder of the automobile tire is rotated such as when the vehicle is in motion. Corporate logos and the like may be disposed on the hubcap and will remain readable due to the non-rotation.

Several design patents have issued on stereo speaker grills. United States Patent D473,215 (Dayton), D473,213 (Abdo), D282,657 (Caren), D473,214 (Dayan), are examples of these expressionistic inventions. These stereo speaker grills are all designed to remain in a fixed position and to not be rotatable.

Automobiles, however, have tires that rotate. Those who want to have their speaker grills visually coordinated with their expensive tire rims have no solution. Accordingly, what is needed is a rotatable speaker grill. Desirably, lighting may be

mounted to the grill. The grill should resemble a wheel both in construction and in appearance. The rotatable portions of the grill should be designed so as to not make the sound from the speakers become choppy.

SUMMARY OF THE INVENTION

The present invention fills a need of those who want to have their speaker grills visually coordinated with their expensive tire rims in the form of a rotatable speaker grill. Desirably, lighting may be mounted to the grill. The grill may resemble a wheel both in construction and in appearance. The rotatable portions of the grill can be designed so as to not make the sound from the speakers become choppy.

The present invention is a speaker and grill. The speaker, preferably a subwoofer, includes a speaker horn disposed within a speaker box. The grill may have a shaft having a central axis in-line with a central axis of the speaker horn. A selectively rotatable grill cover may be joined to the shaft. Optionally, the shaft may be joined to a motor, which may be selectively operated to rotate the shaft. A motor mount may join the motor to the speaker box. The motor mount and the grill cover may be decorated in any of a number of manners, but preferably is in a configuration that resembles an automobile tire with a hubcap.

Advantageously, the present invention provides decorating a speaker with a rotatable grill attracting visual attention to the source of sound.

As yet a further advantage, a grill for an automobile speaker can be coordinated structurally, functionally and aesthetically with the wheels and more particularly rotatable hubcaps on an automobile.

As still yet another advantage lighting may be mounted directly to a speaker, which may be movable while the grill is set in motion.

These and other advantages will become clear upon reading the description and reviewing the appended drawings.

DESCRIPTION OF THE DRAWINGS

Figure 1 is an exploded view of the present invention;

Figure 2 is a front view of the present invention;

Figure 3 is a side view of the present invention;

Figure 4 is a front view of an embodiment of the rim cover;

Figure 5 is a front view of an alternate embodiment of the rim cover; and

Figure 6 is a side view of the rim with the motor shown in phatom.

DETAILED DESCRIPTION

The present invention in its preferable form is a grill 10 mountable on a speaker 12 combination. The speaker 12 may have a speaker horn 16 disposed within a speaker box 14. The speaker 12 is preferably a speaker in an automobile or other vehicle. The speaker 12 may be any type of speaker, but is most preferably of the type

known as a sub-woofer. The components of the grill 10 and speaker 12 are discussed further below, including the rim 20, rim cover 40, motor 50, and rotating cover 60.

Rim 20 may have a front surface 22, a back surface 24 and center rim 26 monolithically joined to each other as shown. The rim 20 may be joined to the speaker 12 through any known mechanism. The figures submitted herewith show the rim 20 joined with fasteners 23 through apertures 25 defined in the rim 20 to the speaker box 14. The rim 20 may be any suitable size or shape sufficient to support and interact with the components described herein. In its preferred mode, the rim 20 resembles a rim of an automobile tire.

Rim 20 may include a motor support 28 having a central aperture frame 30 and spokes 32. The spokes 32 join the central aperture frame 30 to the rim 20, particularly the center rim 26, such that a central axis of the central aperture frame 30 and rim 20 are coaxial. The central aperture frame 30 desirably defines fasteners apertures 34 and a central motor aperture 36. The rim 20 is positioned to circumscribe the speaker horn 16.

Rim cover 40 may optionally be present and is sized and adapted to secure about the rim 20. Rim cover 40 may join to the rim cover in the following manners, frictional fit, adhesively, monolithically, e.g., integrally, or other manner known in the art. Rim cover 40 functionally may be used to hide fasteners 23 and apertures 25 from tampering and decoratively may be use to cause rim 20 to resemble an automobile tire. For instance, the rim cover 40 may resemble the tire portion of an automobile wheel.

Motor 50 may be joined to a shaft 52. The motor 50 in its preferred form rotates the shaft 52 and the rotating cover, which may be joined to the shaft 52. Motor 50 joins

to the central aperture frame 30 perhaps in fastener cooperation with fastener apertures 34 and 54. The shaft 52 may be disposed through the central motor aperture 36 and is intended to be coaxial with the central axis of the rim 20 and a central axis of the speaker horn 16. The motor 50 selectively rotates the rotatable shaft 52 at a constant speed, variable speed, random speed, or a speed reflective of the tempo of the music coming from the speaker 12. A power source 56 such as a battery joins to and powers the motor 50. The power source 56 may selectively, intermittently or variably power the motor 50.

A rotatable cover 60 may have spokes 64 and may have a motor aperture 62. The rotatable cover 60 preferably joins to the rotatable shaft 52 and may therefore be rotated by operation of the motor 50 on the shaft 52. Functionally, the cover 60 conceals and protects the motor 50 and shaft 52. The cover 60 may also be decorative in the mode selected by the manufacturer. Desirably, the cover 60 resembles a rim cover of an automobile, perhaps the very same rim cover used on the particular car in which the present invention is mounted. Lighting 70 of various colors may be mounted about the rim 20 or rim cover 40 to augment the overall appearance.

While one may expect that rotating the cover 60 over a speaker will chop the sound, much like making sound through a fan, such choppiness may be eliminated. The surfaces of the rotating portions, e.g. motor 50, shaft 52 and cover 60 should be made so as to not push air in the manner of a fan. Moreover, the speed of rotation should be held sufficiently slow on its fastest speed to further avoid the chopping effect.

Although the present invention has been described with reference to preferred embodiments, workers skilled in the art will recognize changes may be made in form and detail without departing from the spirit and scope of the invention.